WHAT IS CLAIMED IS:

1. A diffractive optical element, wherein said diffractive optical element has a grating structure in which at least two blazed type grating portions are overlapped with each other, and in at least one grating portion of said two blazed type grating portions, structures smaller than a used wavelength are arranged in a periodic manner on all of light incident surfaces thereof.

2. A diffractive optical element according to claim 1, wherein said diffractive optical element is structured such that within an entire region of used wavelengths, diffraction directions are made different from each other, depending upon a polarization direction of a light beam incident on said diffractive optical element, and a diffracted light is concentrated only to one predetermined diffraction order.

3. A diffractive optical element according to claim 1, wherein said minute periodic structure is constituted by one kind of material, or two kinds of materials, and occupation ratios of the respective materials within one period of said minute periodic structure are made different from each other along a periodic direction of said grating portion.

Sub B2 end

4. A diffractive optical element according to claim 1, wherein said diffractive optical element has a step-shaped grating portion.

5. A diffractive optical element according to claim 4, wherein the minute periodic structure of the grating portion is varied along the periodic direction of the grating portion.

Sub A10

6. A diffractive optical element according to claim 5, wherein said minute periodic structure varied along the periodic direction of said grating portion is varied every step of the grating stepped portions.

7. A diffractive optical element according to claim 4, wherein the minute periodic structure of the grating portion is varied in a grating thickness direction.

8. A diffractive optical element according to claim 7, wherein the minute periodic structure varied in the grating thickness direction is varied every step of the grating stepped portion.

Sub B1

9. A diffractive optical element according to claim 1, wherein said used wavelength range corresponds to a visible light range.

10. A polarization converting element, wherein deflecting means is provided so that an emergence direction of one of a P-polarized light beam and an S-polarized light beam which has undergone polarization-separation to be diffracted in a diffraction direction different depending on a polarization direction by said diffractive optical element according to claim 2 is made substantially coincident with an emergence direction of the other beam.

11. A polarization converting element, wherein a half-wave plate is provided in correspondence to one of a P-polarized light beam and an S-polarized light beam, which has undergone polarization-separation to be diffracted in a direction different depending upon polarization direction, by the diffractive optical element according to claim 2.

12. A polarization converting element, wherein deflecting means is provided so that an emergence direction of one of a P-polarized light beam and an S-polarized light beam which has undergone polarization-separation to be diffracted in a diffraction direction different depending on a polarization direction by said diffractive optical element according to claim 2 is made substantially coincident with an emergence direction of the other beam and a half-wave plate is

provided in correspondence to one of the P-polarized light beam and S-polarized light beam.

13. A polarization converting element according to any one of claims 10 to 12, wherein an optical member is provided so that an incident direction of a light beam on said diffractive optical element is made substantially parallel to an emergence direction thereof.

14. A projection type display apparatus, in which a light beam which is emitted from a light source unit and contains an S-polarized light component and a P-polarized light component, is guided using the polarization converting element according to any one of claims 10 to 12 toward modulating means for modulating the light beam on the basis of an image signal and the light beam modulated by said modulating means is projected onto a predetermined surface by a projection optical system.

15. A projection type display apparatus according to claim 14, wherein said image signal is controlled in response to a signal supplied from an image processing means.